

Claims:

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- 5 Sabas ✓ 1. A method of editing a video sequence comprising at least one clip, each said clip each having a determinable duration, said method comprising the steps of:
- 5 extracting characteristic data associated with each said clip from said sequence, said characteristic data including at least time data related to the corresponding said duration;
- processing said characteristic data according to at least one template of editing rules to form editing instruction data, said editing rules comprising at least a predetermined cutting format configured to form edited segments based on a plurality of predetermined
- 10 segment durations; and
- processing said video sequence according to said editing instruction data to form an edited sequence of said edited segments.
2. A method according to claim 1 wherein said cutting format provides for the
- 15 formation of said edited segments each comprising one of at least a first duration and a second duration and for the discarding of at least a portion of each said clip.
3. A method according to claim 2 wherein said first duration is between 1 and 8 seconds and said second duration is between 2 and 20 seconds.
- 20 4. A method according to claim 3 wherein said first duration is about 4 seconds and said second duration is about 10 seconds.
5. A method according to claim 2 wherein said edited sequence is formed from a time
- 25 sequential combination of said segments based upon a predetermined cutting pattern formed using segments of said first duration and said second duration.

6. A method according to claim 5 wherein said predetermined cutting pattern comprises alternate first duration segments and second duration segments.

5 7. A method according to claim 2 wherein an initial interval of a predetermined (third) duration is discarded from each said clip prior to formation of said edited segments from a remainder of said clip.

8. A method according to claim 7 wherein said third duration is between 0.5 and 2  
10 seconds.

9. A method according to claim 2 wherein an internal interval of a predetermined (fourth) duration is discarded from at least one of said clips from which at least two of said edited segments are to be formed, said internal interval separating portions of said  
15 clip from which said two edited segments are formed.

10. A method according to claim 9 wherein said fourth duration is between 1 and 5 seconds.

20 11. A method according to claim 1 wherein the formation of said edited segments comprises cutting said segments from said clips.

12. A method according to claim 2 wherein the formation of said edited segments comprises cutting a portion from at least one said clip and modifying a reproduction  
25 duration of said portion to correspond with one of said first duration or said second duration.

13. A method according to claim 12 wherein said cutting and modifying are performed when said portion has a reproduction duration within a predetermined range of one of said first and second durations.

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14. A method according to claim 13 wherein said predetermined range is from 70% to 200% of said one of said first and second durations.

15. A method according to claim 12 wherein said modifying comprises multiplying the reproduction time of said portion by a predetermined factor and cutting the modified portion to one of said first or second durations.

16. A method according to claim 2 wherein said editing rules comprise an edited duration during which said edited segments are to be reproduced and from which a number of said edited segments is determined based upon said first and second durations.

17. A method according to claim 1, wherein said segment durations are determined using a beat period of a sound track to be associated with said edited sequence.

18. A method according to claim 1 wherein said characteristic data comprises data accompanying said video sequence.

19. A method according to claim 1 wherein said editing rules includes incorporating at least one title matte as part of said edited sequence.

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20. A method according to claim 19 wherein said title matte is formed and incorporated according to a sub-method comprising the steps of:

examining said time data for each said clip to identify those of said clips that are associable by a predetermined time function, said associable clips being arranged into corresponding groups of clips;

identifying at least one of a beginning and a conclusion of each said group as a title location;

at at least one said title location, examining at least one of corresponding said time data and further said characteristic data to generate said insert title including at least a text component; and

incorporating said insert title into said sequence at said title location.

21. An edited video sequence formed using the method of any one of the preceding claims.

22. A computer readable medium, having a program recorded thereon, where the program is configured to make a computer execute a procedure to edit a video sequence comprising at least one clip, each said clip each having a determinable duration, said program being configured to implement the steps of:

extracting from said sequence characteristic data associated with each said clip, said characteristic data including at least time data related to the corresponding said duration;

processing said characteristic data according to at least one template of editing rules to form editing instruction data, said editing rules comprising at least a predetermined cutting format configured to form edited segments based on a plurality of predetermined segment durations; and

processing said video sequence according to said editing instruction data to form an edited sequence of said edited segments.

23. A computer readable medium according to claim 22 wherein said cutting format provides for the formation of said edited segments each comprising one of at least a first duration and a second duration and for discarding of at least a portion of each said clip, and wherein an initial interval of a predetermined (third) duration is discarded from each said clip prior to formation of said edited segments from a remainder of said clip.

24. A computer readable medium according to claim 23 wherein said first duration is between 1 and 8 seconds, said second duration is between 2 and 20 seconds, and said third duration is between 0.5 and 2 seconds.

25. A computer readable medium according to claim 23 wherein an internal interval of a predetermined (fourth) duration is discarded from at least one of said clips from which at least two of said edited segments are to be formed, said internal interval separating portions of said clip from which said two edited segments are formed, said fourth duration being between 1 and 5 seconds.

26. A method according to claim 22 wherein the formation of said edited segments comprises cutting said segments from said clips.

27. A computer readable medium according to claim 23 wherein the formation of said edited segments comprises cutting a portion from at least one said clip and modifying a reproduction duration of said portion to correspond with one of said first duration or said second duration.

28. A computer readable medium according to claim 27 wherein said cutting and modifying are performed when said portion has a reproduction duration within a predetermined range of one of said first and second durations, said predetermined range being from 70% to 200% of said one of said first and second durations.

29. A computer readable medium according to claim 27 wherein said modifying comprises expanding the reproduction time of said portion by a predetermined factor and cutting the modified portion to one of said first or second durations.

30. A computer readable medium according to claim 23 wherein said editing rules comprise an edited duration during which said edited segments are to be reproduced and from which a number of said edited segments is determined based upon said first and second durations.

31. A computer readable medium according to claim 23 wherein said edited sequence is formed from a time sequential combination of said segments based upon a predetermined cutting pattern formed using segments of said first duration and said second duration, said predetermined cutting pattern comprising one of alternate first duration segments and second duration segments or a pseudo-random selection of first duration segments and second duration segments.

32. A computer readable medium according to claim 22, wherein said segment durations are determined using a beat period of a sound track to be associated with said edited sequence.

33. A computer readable medium according to claim 23 wherein said characteristic data comprises data selected from the group consisting of:

data accompanying said video sequence; and

data formed by analysing said video sequence, said analysing comprises at least one  
5 of time analysis, image analysis, sound analysis and motion analysis.

34. A computer readable medium according to claim 23 wherein said editing rules includes incorporating at least one title matte as part of said edited sequence, said title matte being formed and incorporated according to a sub-method comprising the steps of:

10 examining said time data for each said clip to identify those of said clips that are associable by a predetermined time function, said associable clips being arranged into corresponding groups of clips;

identifying at least one of a beginning and a conclusion of each said group as a title location;

15 at at least one said title location, examining at least one of corresponding said time data and further said characteristic data to generate said insert title including at least a text component; and

incorporating said insert title into said sequence at said title location.

20 35. A visual image editing system comprising:

supply means for providing a video sequence comprising at least one clip, each said clip each having a determinable duration;

extracting means for extracting from said sequence characteristic data associated with each said clip, said characteristic data including at least time data related to the  
25 corresponding said duration;

processing means for processing said characteristic data according to at least one predetermined template of editing rules to form editing instruction data, said editing rules comprising at least a predetermined cutting format configured to form edited segments based on a plurality of predetermined segment durations;

5 editing means for editing said video sequence according to said editing instruction data to form an edited sequence of said edited segments; and

output means for receiving said edited sequence.

36. A system according to claim 35 wherein said supply means comprises a storage arrangement configured to couple said video sequence to said extraction means and said output means comprises at least one of a display device by which said edited sequence is viewable and a further storage arrangement for storing said edited sequence.

37. A system according to claim 36 wherein said characteristic data comprises metadata, said extracting means forming a metadata file of said video sequence based upon each said clip, said metadata file forming an input to said processing means, at least said processing means comprising a computer device operable to interpret said metadata file according to said rules to form said edit instruction data.

38. A system according to claim 37 wherein said first duration is between 1 and 8 seconds, said second duration being between 2 and 20 seconds and said third duration is between 0.5 and 2 seconds and an internal interval of a predetermined (fourth) duration is discarded from at least one of said clips from which at least two of said edited segments are to be formed, said internal interval separating portions of said clip from which said two edited segments are formed, said fourth duration being between 1 and 5 seconds.



39. A system according to claim 38 wherein said editing means comprises means for cutting a portion from at least one said clip and modifying a reproduction duration of said portion to correspond with one of said first duration or said second duration.

5 40. A system according to claim 39 wherein said cutting and modifying are performed when said portion has a reproduction duration within a predetermined range of one of said first and second durations, said predetermined range being from 70% to 200% of said one of said first and second durations.

10 41. A system according to claim 40 wherein said modifying comprises expanding the reproduction time of said portion by a predetermined factor and cutting the modified portion to one of said first or second durations.

15 42. A system according to claim 38 wherein said processing means comprises a store of said editing rules, one of said editing rules comprising an edited duration during which said edited segments are to be reproduced and from which said processing means is configured to determine a number of said edited segments based upon said first and second durations.

20 43. A system according to claim 42 wherein said editing means forms said edited sequence from a time sequential combination of said segments based upon a predetermined cutting pattern formed using segments of said first duration and said second duration.

44. A system according to claim 43 wherein said predetermined cutting pattern comprises one of alternate first duration segments and second duration segments and a pseudo-random selection of first duration segments and second duration segments.

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5 45. A system according to claim 35 wherein said editing rules comprise incorporating at least one title matte as part of said edited sequence, said system further comprising means for forming and incorporating said title matte into said edited sequence, said means for forming and incorporating comprising:

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10 associating means for examining said time data for each said clip to identify those of said clips that are associable by a predetermined time function, said associable clips being arranged into corresponding groups of clips;

identifying means for identifying at least one of a beginning and a conclusion of each said group as a title location;

15 characteristic data examining means for, at at least one said title location, examining at least one of corresponding said time data and further said characteristic data to generate said insert title including at least a text component; and

means for incorporating said insert title into said sequence at said title location.

46. A method of editing a video sequence comprising a plurality of individual clips and  
20 associated data including at least time data related to a real time at which said clip was recorded, said method comprising the steps of:

(a) examining said time data for each said clip to identify those of said clips that are associable by a predetermined time function, said associable clips being arranged into corresponding groups of clips;

25 (b) identifying at least one of a beginning and a conclusion of each said group as a title location;

(c) at at least one said title location, examining at least one of corresponding said time data and further data to generate an insert title including at least a text component; and

(d) incorporating said insert title into said sequence at said title location.

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47. A method according to claim 46 wherein said predetermined time function comprises associating any two sequential clips within a group when the period between the real-time conclusion of one said clip and the real-time commencement of the following said clip is less than a predetermined (first) duration.

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48. A method according to claim 46 wherein said further data comprises user provided data.

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49. A method according to claim 46 wherein said further data comprises generated data formed by analysing the corresponding said clip and step (c) comprises examining said data to select from a rule-based group of alternatives at least one title component from a title database, said title components collectively forming said insert title.

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50. A method according to claim 49 wherein said title components are selected from the group consisting of individual words and phrases, said title components being configured for selection in response to a rule-based examination of said data.

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51. A method according to claim 50 wherein said title database comprises a plurality of typeset configurations applicable to said title components to modify a visual impact of said insert title.

52. A method according to claim 49 wherein said title database comprises a graphical database of graphical objects configured for inclusion in said insert title.

53. A method according to claim 46 wherein said insert title comprises a matte background permitting superimposition of said insert title upon said clip.

54. An edited video sequence formed using the method of any one of claims 46 to 53

55. A computer readable medium, having a program recorded thereon, where the program is configured to make a computer execute a procedure to editing a video sequence comprising a plurality of individual clips and associated data including at least time data related to a real time at which said clip was recorded, said program being configured to implement the steps of:

(a) examining said time data for each said clip to identify those of said clips that are associable by a predetermined time function, said associable clips being arranged into corresponding groups of clips;

(b) identifying at least one of a beginning and a conclusion of each said group as a title location;

(c) at at least one said title location, examining at least one of corresponding said time data and further data to generate an insert title including at least a text component; and

(d) incorporating said insert title into said sequence at said title location.

56. A computer readable medium according to claim 55 wherein said predetermined time function comprises associating any two sequential clips within a group when the

period between the real-time conclusion of one said clip and the real-time commencement of the following said clip is less than a predetermined (first) duration.

57. A method according to claim 55 wherein said further data comprises user provided data.

58. A computer readable medium according to claim 55 wherein said further data comprises generated data formed by analysing the corresponding said clip and step (c) comprises examining said data to select from a rule-based group of alternatives at least one title component from a title database, said title components collectively forming said insert title.

59. A computer readable medium according to claim 58 wherein said title components are selected from the group consisting of individual words and phrases, said title components being configured for selection in response to a rule-based examination of said data.

60. A computer readable medium according to claim 59 wherein said title database comprises a plurality of typeset configurations applicable to said title components to modify a visual impact of said insert title.

61. A computer readable medium according to claim 58 wherein said title database comprises a graphical database of graphical objects configured for inclusion in said insert title.

62. A computer readable medium according to claim 55 wherein said insert title comprises a matte background permitting superimposition of said insert title upon said clip.

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5 63. A system for editing a video sequence comprising a plurality of individual clips and associated data including at least time data related to a real time at which said clip was recorded, said system comprising:

associating means for examining said time data for each said clip to identify those of said clips that are associable by a predetermined time function, and for arranging  
10 associable ones of said clips into corresponding groups of clips;

identifying means for identifying at least one of a beginning and a conclusion of each said group as a title location;

examining means for examining, at at least one said title location, at least one of corresponding said time data and further data to generate an insert title including at least a  
15 text component; and

editing means for incorporating said insert title into said sequence at said title location.

64. A system according to claim 63 wherein clips within each said group are  
20 sequentially associable by said predetermined time function and said predetermined time function comprises associating any two sequential clips within a group when the period between the real-time conclusion of one said clip and the real-time commencement of the following said clip is less than a predetermined (first) duration.

25 65. A system according to claim 64 wherein said further data comprises user provided data.

66. A system according to claim 65 wherein said further data comprises generated data formed by analysing the corresponding said clip and said examining means examines said data to select from a rule-based group of alternatives at least one title component from a title database, said title components collectively forming said insert title.

67. A system according to claim 66 wherein said title components are selected from the group consisting of individual words and phrases, said title components being configured for selection in response to a rule-based examination of said data.

68. A system according to claim 67 wherein said title database comprises a plurality of typeset configurations applicable to said title components to modify a visual impact of said insert title.

69. A system according to claim 68 wherein said title database comprises a graphical database of graphical objects configured for inclusion in said insert title.

70. A system according to claim 63 wherein said insert title comprises a matte background permitting superimposition of said insert title upon said clip.

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